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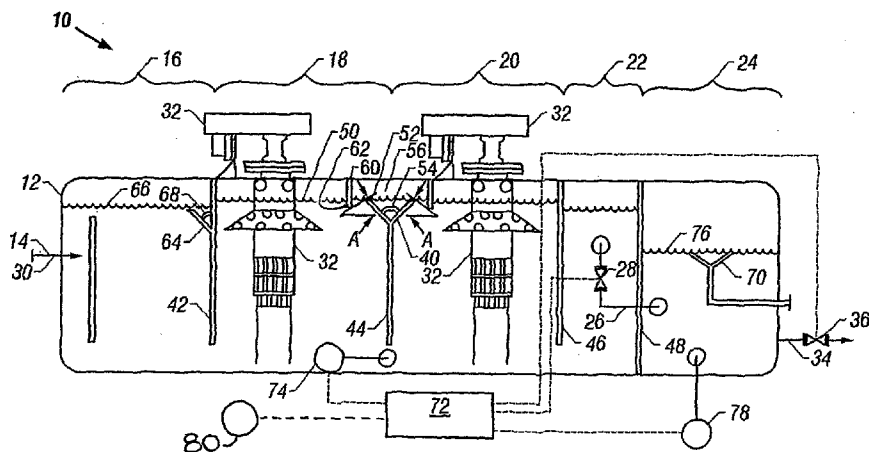
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(54) Title: DUAL-CELL MECHANICAL FLOTATION SYSTEM WITH INTERMITTENT SKIMMING



(57) Abstract: It has been discovered that a mechanical flotation system (10) having only two cells (18, 20) can be nearly as efficient as one having more cells, yet provide an apparatus with a considerably smaller footprint, significantly reduced capital and operating costs, as well as be resistant to floating oil recovery platform wave effects. The dual-cell mechanical flotation system (10) has, in sequential order, an inlet chamber (16) and two gasification chambers or cells (18, 20), each with at least one gas ingestion and mixing mechanism (32), and a discharge chamber (24). A common primary skim collection channel (40) atop the partition (44) dividing the gasification chambers (18, 20) efficiently channels away the bulk of the floating collected matter. At least one baffle (60) depending from the top of the vessel (12) near the primary skim collection channel (40) helps dampen the action of the fluid containing the suspended matter when the vessel (12) is affected by wave motion against the floating oil production platform. The liquid or froth levels (50, 66, and 76) can be intermittently raised for collection or otherwise lowered during periods of excessive turbulence (*e.g.* pitch or roll) to prevent clarified liquid from being collected with suspended matter.

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